



STATE OF MICHIGAN
DEPARTMENT OF EDUCATION
LANSING



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TO: State Board of Education

FROM: Michael P. Flanagan, Chairman

DATE: March 11, 2009

SUBJECT: APPROVAL OF MEAP-ACCESS FORMAT FOR IMPLEMENTATION

Last month, a presentation on a new assessment (MEAP-Access) was made to the State Board of Education, with a notice that the Board would be asked to approve a format for this assessment at this month's meeting.

A summary of the results of the MEAP-Access pilot are provided in Appendix A. All forms were shortened for this population, and the results demonstrated that the targeted students were able to score above the chance level on all forms, as hoped.

In addition, students performed better when one option was eliminated from multiple choice items. This increase in student performance was beyond the increase that would be expected from simply eliminating one option, demonstrating increased student access to the content of the assessment.

Finally, the results demonstrated that enhanced directions provided on certain forms of the English Language Arts MEAP-Access pilot did not significantly improve student performance, and would therefore not be an appropriate modification to improve access to the content of the assessment.

It is recommended that the State Board of Education approve the use of the 3-choice Multiple Choice format for MEAP-Access for Fall 2009 and beyond, as described in the Superintendent's memorandum dated March 11, 2009.

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Appendix A

Results of the MEAP-Access Pilot

| Subject | Grade | # of points | Reliability | | | Average Percent Correct Score | | | Difference |
|-------------|-------|-------------|----------------|----------------|----------------|-------------------------------|----------------|----------------|------------|
| | | | 3-Choice w/EH* | 3-Choice no EH | 4-Choice no EH | 3-Choice w/EH | 3-Choice no EH | 4-Choice no EH | |
| Mathematics | 3 | 38 | | 0.88 | | | 0.56 | | |
| | 4 | 41 | | 0.85 | 0.83 | | 0.50 | 0.41 | 0.09 |
| | 5 | 52 | | 0.78 | 0.79 | | 0.42 | 0.37 | 0.05 |
| | 6 | 40 | | 0.75 | 0.68 | | 0.42 | 0.33 | 0.10 |
| | 7 | 49 | | 0.76 | 0.71 | | 0.36 | 0.28 | 0.08 |
| | 8 | 32 | | 0.65 | 0.67 | | 0.42 | 0.36 | 0.06 |
| ELA | 3 | 30 | 0.69 | 0.69 | | 0.41 | 0.41 | | 0.00 |
| | 4 | 30 | | 0.73 | 0.68 | | 0.40 | 0.33 | 0.07 |
| | 5 | 30 | 0.73 | | 0.69 | 0.41 | | 0.32 | 0.09 |
| | 6 | 30 | 0.78 | 0.78 | | 0.45 | 0.43 | | 0.02 |
| | 7 | 30 | | 0.65 | 0.64 | | 0.40 | 0.30 | 0.10 |
| | 8 | 30 | 0.41 | | 0.40 | 0.25 | | 0.28 | 0.03 |

*Enhanced Directions

The results are summarized above for both mathematics and ELA in grades 3-8. The reliabilities were inspected for each form, and where one form had a substantially higher reliability than the alternative, that form's reliability coefficient is displayed in bold. Percent correct scores were also inspected for each form, and where one form had a significantly higher percent correct score, that form's average percent correct score is displayed in bold. The differences in average percent correct scores are also displayed, with significant differences in bold.

Mathematics Results

There were only two format options in Mathematics (3-choice multiple choice [MC] items versus 4-choice MC items). This makes the interpretation more clear for Mathematics. As expected, in every case, students achieved a higher percentage correct when responding to 3-choice MC items.

The increases were in general near the increase in probability of guessing an item correct (0.083) when eliminating one choice from the MC items. However, it would be expected that the average score would increase by that much only if every student were guessing. That is not the case, as the average percent correct score was above the chance level for all forms in mathematics. Thus, the increase in student scores cannot be explained entirely by the elimination of one choice from each MC item.

In addition, where the reliability for one form was at least 0.05 higher than for the alternative form, the 3-choice MC item format resulted in a more reliable set of data.

These two results taken together suggest that eliminating one choice from the mathematics MC items provides an appropriately increased access to this assessment for the pilot sample.

English Language Arts (ELA) Results

There were three format options in ELA (3-choice multiple choice [MC] items versus 4-choice MC items versus 3-choice MC items with enhanced directions [EH]). This makes the interpretation more difficult for ELA. Where a 3-choice MC format with enhanced directions was compared with a regular 3-choice MC format, there were no statistically

significant differences, indicating that the enhanced directions did not increase access for the pilot sample. In fact, in grade 8, students who responded using the 4-choice MC format did better than students who responded using the 3-choice MC format with enhanced directions, suggesting that perhaps the enhanced directions may actually have hindered access. Where students responded using a regular 3-choice MC items, they performed statistically significantly better than students who used the regular 4-choice MC items.

Finally, in the one instance where the reliability of one form was at least 0.05 higher than the alternative form, the result favored the regular 3-choice MC format over the regular 4-choice MC format.

All of these results taken together suggest that eliminating one choice from the ELA MC items provides an appropriately increased access to this assessment for the pilot sample, but that providing enhanced directions did not.